

73.8 : .... ?

0.8 : 0.11001100(1100)...

$$73 = 64 + 8 + 1$$

$$2^6 \quad 2^3 \quad 2^0$$

$$\dots 001001001$$

$$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$$

$$2^6 \quad 2^5 \quad 2^4 \quad 2^3 \quad 2^2 \quad 2^1 \quad 2^0$$

73	2	1
36	2	0
18	2	0
9	2	0
4	2	0
2	2	0
1	2	1
0		

$$\rightarrow 0.8 \times 2 = 1.6$$

$$0.6 \times 2 = 1.2$$

$$0.2 \times 2 = 0.4$$

$$0.4 \times 2 = 0.8$$

$$\rightarrow 0.8 \times 2 = 1.6$$

$$0.6 \times 2 = \dots$$

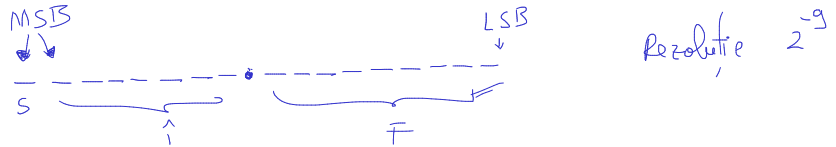
$$\begin{array}{c} 1 \\ 1 \\ 0 \\ 0 \\ 1 \\ 1 \\ 0 \\ 1 \\ 1 \\ \vdots \end{array}$$

73.8 : 1001001, 11001100(1100)...

$$101011.01101 = 2^5 + 2^3 + 2^1 + 2^0 + 2^{-2} + 2^{-3} + 2^{-5} = 43.40625$$

$$\frac{8}{4} + \frac{4}{8} + \frac{1}{32} = \frac{13}{32} = 0.40625$$

Virgulă fixă : 15 7 1 9 F



15 0 1 7 F



Nr. negative :

1) Notation - semn

$$7.25 = \frac{0}{s} 111.01$$

$$-7.25 = \frac{1}{s} 111.01$$

$$s : 0 = +$$

$$1 = -$$

$$+0 : \frac{0}{s} 00000 \dots$$

$$-0 : \frac{1}{s} 00000 \dots$$

$$7.25 + (-7.25) = 0$$

$$\begin{array}{r} 0111.01 + \\ 1111.01 \\ \hline 0110.10 \\ \text{??} \end{array} \neq 0$$

$$7.5 + 3.9 - 2.1 + 0.3$$

2). Complement f. de 1 (C1)

$$\begin{array}{c} 12 = 0.75 \\ 2^2 = 0.75 \\ 000.110 \text{ nr. pos.} = 0.75 \\ \Rightarrow -0.75 \end{array}$$

$$7.25 = \frac{0}{s} 111.01$$

$$-7.25 = \frac{1}{s} 000.10$$

$$+0 : \frac{0}{s} 00000$$

$$-0 : \frac{1}{s} 11111$$

$$\begin{array}{r} 0111.01 + \\ 1000.10 \\ \hline 1111.11 = -0 \end{array}$$

3). Complement f. de 2 (C2)

$$7.25 = \frac{0}{s} 111.01$$

$$-7.25 = \frac{1}{s} 000.10 +$$

$$\frac{1}{s} 000.11$$

$$+0 : \frac{0}{s} 000000$$

$$-0 : \frac{1}{s} 111111 + 1$$

$$\frac{1}{s} 000000$$

$$\begin{array}{r} 0111.01 + \\ 1000.11 \\ \hline 1111.11 \\ 000000 \end{array} \checkmark$$

4). offset binar : la fel ca C2, s : 0 :-

Vg. fixa  
150↑2F

$$\frac{0}{5}, 11 = +\left(\frac{1}{2} + \frac{1}{2^2}\right) = \frac{1}{2} + \frac{1}{4} = 0.75 = \frac{3}{4}$$

7.9235  
79.235  
79 2.35

#.  $7.25 = 0111.01$

$$14.5 = 0111.01$$

$\underbrace{111}_{8+4+2} \quad \underbrace{0.1}_{2^{-1}}$   
14.5

$$\begin{array}{r} 111.01 = 7.5 \\ \leftarrow 1110.1 = 14.5 \end{array}$$

$$79.25 = \frac{7925}{10^2}$$

$$\frac{7.25}{2} = 3.625 = 011.101$$

$$0.375 = \frac{3}{8}$$

~~0.011~~

~~01111 =~~  
~~01111 =~~

$$0111 = 7$$

$$0,111 = \frac{7}{2^3} = \frac{7}{8}$$

$$0,11 = \frac{3}{2^2} = \frac{3}{4}$$

$$\begin{array}{r} 0.101 + \\ 0.010 \\ \hline 0.111 \end{array}$$

$$\begin{array}{r} \frac{5}{8} + \\ \frac{2}{8} \\ \hline \frac{7}{8} \end{array}$$

Care este domeniul dinamic și rezoluția

pt. 150↑4F

S F F F F

$$0,1111 = \frac{15}{16}$$

$$0,1110 = \frac{14}{16}$$

$$0,0001 = \frac{1}{16}$$

$$0,0000 = 0 = \frac{0}{16}$$

(C2):

1,1111	-1/16
1,1110	-2/16
1,1101	-3/16
	⋮
	-13/16
	-14/16
1,0001	-15/16
1,0000	-16/16

$$\text{Domeniu dinamic} = \frac{31}{16}$$

$$\text{Rezoluția} = \frac{1}{16}$$

32